REMARKS

This paper is filed in response to the final official action dated November 19, 2007 (hereafter, "the official action"), the advisory action dated January 30, 2008, and the notice of panel decision from pre-appeal brief review dated June 2, 2008, and in furtherance to the notice of appeal filed April 21, 2008. This paper is timely filed as it is accompanied by a petition for extension of time and authorization to charge our credit card account in the amount of the requisite fee. The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith to our Deposit Account No. 13-2855, under Order No. 29610/CDT448.

Claims 1-32 are pending, but claims 18-24 have been withdrawn.

By the foregoing, claims 1, 3, 6, 9, 11, 12, 29, and 30 have been amended, and claims 10, 14, 27, 31, and 32 have been canceled without prejudice or disclaimer. Support for the amendment to claim 1 may be found, for example, at the third paragraph of page 5 of the application. The other amendments relate to matters of form. No new matter has been added.

Claims 1, 2, 5-16 and 25-32 stand rejected as anticipated by, or in the alternative, as obvious over U.S. Patent Publication No. 2001/0026878 to Woo et al. ("Woo"). Claims 1, 2, 4, 10, and 15-17 stand rejected as anticipated by, or in the alternative, as obvious over International Patent Publication No. WO 02/31896 Periyasamy et al. ("Periyasamy"). Claims 1-4 and 17 stand rejected as anticipated by, or in the alternative, as obvious over European Patent Publication No. EP 1220341 to Naito ("Naito"). The applicants respectfully traverse the rejections.

As an initial matter, the Office indicated in the advisory action dated January 30, 2008, that the term 'cross-linked' has been given "its most broadest interpretation since the applicants have not specifically and adequately described what constitutes a 'cross-linked' material." In response, the applicants respectfully submit that the term 'cross-linked' is a well understood term in the chemical arts. *See*, for example, *Hawley's Condensed Chemical Dictionary*, Fifteenth Edition (2007), which defines the term cross-linking as "attachment of two chains of polymer molecules by bridges...."[1] In view of same, the

[1] A copy of the definition is attached as Attachment A.

applicants again submit that their previous comments regarding the distinctions between the claimed hole transporting and electron blocking material and the materials disclosed by applied art reflect chemical differences between said materials, and do not raise new matter issues as (possibly) suggested by the examiner.

Nonetheless, the claims have been further amended to advance prosecution. Specifically, the claims have been amended to recite an organic semiconducting copolymer comprising triarylamine repeat units in a molar ratio between 1% and 10%. The cited art fails to disclose or suggest a device including a layer of such a copolymer.

While the Office cited Woo as suggesting a copolymer comprising triarylamine repeat units in a molar ratio between 1% and 10%, as claimed (*see* page 4 of the final action), Woo merely exemplifies 1:1 ratio A:B copolymers. Specifically, each of the polymers (V) to (XII) explicitly disclosed in Woo are 1:1 ratio A:B copolymers (i.e., regioregular copolymers). Thus, one of ordinary skill in the art would naturally conclude that any efficiency and brightness advantages described in Woo flow from 1:1 ratio A:B copolymers or copolymers having substantially similar ratios of repeat units. Similarly, Woo fails to disclose or suggest any advantages associated with polymers comprising triarylamine repeat units anywhere near the lower endpoint of at least 10 wt.% (or at least 5 wt.%) given therein. Thus, the skilled artisan would not be motivated to include a triarylamine repeat unit in a molar ratio between 1% and 10%, as recited in all pending claims.

Moreover, devices including semiconducting copolymers comprising triarylamine repeat units in a molar ratio between 1% and 10% demonstrate enhanced efficiency. Example 2 on page 16 of the application describes the effect of varying triarylamine content in the organic semiconducting copolymer layer on optical device performance. It is apparent from Figure 3 that optical devices including copolymers comprising triarylamine repeat units in a molar ratio between 1% and 10% exhibit significantly better efficiency than devices including copolymers comprising a higher ratio of triarylamine units. There is no teaching in the applied art that a combination of a polymer comprising such a triarylamine content and a cathode such as barium leads to improved efficiency. As such, it is respectfully submitted that a *prima facie* case of obviousness over Woo cannot be sustained.

CONCLUSION

It is submitted that the application is in condition for allowance. Should the examiner wish to discuss the foregoing, or any matter of form or procedure in an effort to advance this application to allowance, he is respectfully invited to contact the undersigned attorney at the indicated telephone number.

Respectfully submitted,

MARSHALL, GERSTEIN & BORUN LLP

December 2, 2008

Andrew M. Lawrence, Reg. No. 46,130
Attorney for Applicants
6300 Sears Tower
233 S. Wacker Drive
Chicago, Illinois 60606-6357
(312) 474-6300

TIONS

Wiley first
generation
helping to
the midst
ilding the
nical, and
the 20th
ond their
as there,
of ideas,

journey,
eir needs
the way
owledge
es.

you the

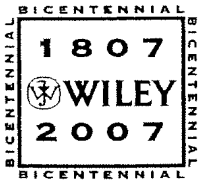
WILEY
BOARD

Hawley's

Condensed Chemical Dictionary

Fifteenth Edition

Richard J. Lewis, Sr.



WILEY-INTERSCIENCE
A JOHN WILEY & SONS, INC., PUBLICATION

ATTACHMENT A

Dedicated to

Published by John Wiley & Sons, Inc., Hoboken, New Jersey.
Published simultaneously in Canada.

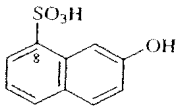
Library of Congress Cataloging-in-Publication Data is available.

Lewis, Richard J., Sr.
Hawley's Condensed Chemical Dictionary, Fifteenth Edition
ISBN 13: 978-0-471-76865-4
ISBN 10: 0-471-76865-0

Printed in the United States of America.

10 9 8 7 6 5 4 3 2 1

crocein acid. (croceic acid; Bayer's acid; 2-naphthol-8-sulfonic acid).



Derivation: Sulfonation of β-naphthol with 94% sulfuric acid at 95C and recrystallization from a salt.
Use: Azo-dye intermediate.

Crocein Scarlet MOO. See Brilliant Crocein.

crocetin. $C_{20}H_{24}O_4$. A dicarboxylic carotenoid derived from saffron.
Properties: Red, rhomboid crystals. Mp 285C. Soluble in pyridine and dilute sodium hydroxide; slightly soluble in water and organic solvents. Combustible.
Use: Experimental treatment of arteriosclerosis by increasing oxygen diffusion through arterial walls, thus decreasing buildup of cholesterol.

crocidolite. A type of asbestos.
See asbestos.

crocking. Removal of a dye or pigment from the surface of a paint or textile by rubbing or attrition.

"Crodamal" ***[Croda].*** TM for fatty acid esters.
Grade: In liquid, solid, and flake forms.
Use: As emollient esters for skin care, sun care, and stick products.

"Crodamide" ***[Croda].*** (Erucamide) TM for slip and mold release agents.
Use: Plastics casting.

"Crodamide OR" ***[Croda].*** TM for oleamide slip and mold release additive.
Available forms: Beads, powder, and pastilles.
Use: In manufacture of plastics.

"Croda Oleochemicals" ***[Croda, Japan].*** TM for chemicals used in hair care, sun screen, polymer medical additives, and cleaning products.

"Crome of Nature" ***[Afrocare].*** TM for a no-lye hair relaxer.
Use: A color changing formula that signals when Crome is ready.

"Cronox 861 OS" ***[Baker Petrolite].*** TM for a batch treatment drilling corrosion inhibitor.
Use: As a corrosion inhibitor

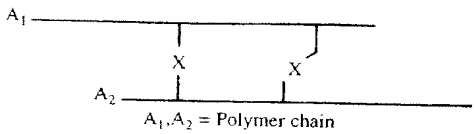
crospovidone. See polyvinylpolypyrrolidone.

Cross-Bevan (viscose) process. Production of rayon by treatment of cellulose with alkali and carbon disulfide to yield cellulose xanthate, solution in dilute caustic, and extrusion of the viscous "Viscose" into a coagulating bath, a 7–10% sulfuric acid solution containing 1–5% zinc sulfate and an active surface agent.

crosshead. A device attached to the head of an extrusion machine that permits the material to be extruded in opposite directions simultaneously at right angles to the barrel. It is applicable chiefly to coating of wire, cable, and small-diameter hose.

crossing over. The breaking during meiosis of one maternal and one paternal chromosome, the exchange of corresponding sections of DNA, and the rejoining of the chromosomes. This process can result in an exchange of alleles between chromosomes.
See recombination.

cross-linking. Attachment of two chains of polymer molecules by bridges, composed of either an element, a group, or a compound, that join certain carbon atoms of the chains by primary chemical bonds, as indicated in the schematic diagram.



A_1,A_2 = Polymer chain
X = Crosslinking agent

Cross-linking occurs in nature in substances made up of polypeptide chains that are joined by the disulfide bonds of the cystine residue, as in keratins, insulin, and other proteins. Polysaccharide molecules can also cross-link to form stable gel structures (dextran). Cross-linking can be effected artificially, either by adding a chemical substance (cross-linking agent) and exposing the mixture to heat, or by subjecting the polymer to high-energy radiation. Examples are (1) vulcanization of rubber with sulfur or organic peroxides; (2) cross-linking of polystyrene with divinylbenzene; (3) cross-linking of polyethylene by means of high-energy radiation or with an organic peroxide; (4) cross-linking of cellulose with dimethylol carbamate (10% solution) in durable-press cotton textiles. Cross-linking has the effect of changing a plastic from thermoplastic to thermosetting. Thus, it also increases strength, heat and electrical resistance, and especially resistance to solvents and other chemicals.
See vulcanization; polyethylene; keratin.

cross section. (1) A measure of the probability that a nuclear reaction will occur. Usually measured in barns, it is the apparent (or effective) area presented by a target nucleus (or particle) to an oncoming particle or other nuclear radiation, such as a photon or γ-radiation. Also called capture cross section.